reason, as stigmata. This opinion is still maintained by several recent observers, especially Leydig* and Meade†. As regards Tulk, there is nothing in his well-known memoir‡ differing essentially from the opinion of Treviranus§.

XIV.—*Observations on the Distribution of some Species of Nudibranchiate Mollusca in the China Sea.* By Dr. C. Collingwood, F.L.S.

In my rambles upon numerous beaches on the coast of China, Formosa, Labuan, Singapore, &c., I always kept my eyes open for the species of these often beautiful animals; and being tolerably well acquainted with their habitats and the character of the most likely localities for meeting with them, I was in hopes of making a large collection of perhaps new species from these seas. In point, however, of the number of species that rewarded my search I was disappointed, and not a little surprised at the paucity of individuals and the rarity of species. I expected to find such animals in abundance upon tropical shores; whereas, although day after day I have searched for them, it has been only now and then that I have been rewarded by finding one. The shores of these regions, so far as I have had opportunity of examining them, are less fertile in species than those of our own country; and whether this arises from the season of the year at which my examination has been made, or from local circumstances, I

* "Zum feineren Bau der Arthropoden," Müller's Archiv, 1855, p. 433.

† "Monograph on the British Species of Phalangiidæ," Ann. & Mag. Nat. Hist. ser. 2. vol. xv. p. 395.

‡ "On the Anatomy of *Phalangium Opilio*," Annals of Natural History, ser. 1. vol. xii. p. 153.

§ I may be permitted to notice here a matter somewhat beside the present question. In the same volume of the 'Annals and Magazine of Natural History' (ser. 3. vol. xvi.) in which the translation of my memoir on the male generative organs of the *Phalangiidæ* appeared, there is a short notice by Sir John Lubbock, in which he indicates that four years previously, in a memoir published in the 'Philosophical Transactions,' he had explained the same subject in a manner essentially agreeing with my observations. Mr. Lubbock was kind enough to send me this important memoir (Notes on the Generative Organs of the Annulosa, *l. c.* 1861, p. 610), which had been overlooked by me; and from it I certainly perceive that Lubbock is perfectly justified in claiming the priority with respect to the correct interpretation of the previously misunderstood testis and the proof of its connexion with the *vas deferens* through the two canals which I indicated in my paper as *vasa efferentia*. The same memoir also contains some indications of the structure of the accessory sexual glands, in the cells of which, I may remark in passing, I have lately met with a vacuoliform cavity besides the nucleus.

know not; but this I do know, that it has not been for want of diligent search, made day after day under a tropical sun, the result of which was that I have counted one a prize, the more valued from its infrequency.

The first time I had an opportunity of ransacking a new shore was at Aden, where I procured three specimens of what is most probably the *Bornella digitata* of Adams, a very beautiful species, which Mr. Adams discovered in the Straits of Sunda, when voyaging in the 'Samarang.' It also occurs among the Madras Nudibranchs collected by Sir Walter Elliot, and described in the 'Zoological Transactions' by Messrs. Alder and Hancock. On both these, the only other occasions on which they have been met with, two or three specimens only were found. Thus we have this little animal extending from side to side of the Indian Ocean, and occurring also at an intermediate station, on the Coromandel coast.

On some rocks in the middle of Hongkong Harbour I searched in vain, although I had been informed that some species were to be found there; and my informant having conducted me to the spot, we were both equally unsuccessful. Almost the next place which I had any opportunity of examining was the basaltic rocks of Makung Harbour, in the Island of Ponghou, Pescadores archipelago. These shores were remarkably barren of most classes of marine animals; but I was here fortunate enough to meet with a specimen of an extremely richly coloured species of *Doris*, which Mr. Hancock tells me he believes to be like the *Doris Barnardii* of Kelaart, a MS. species which he met with on the shores of Ceylon. This species, probably a species of *Chromodoris* (A. & H.), is marked with deep-blue and yellow spots upon a light-blue ground, the tentacles and branchiæ being of a bright vermilion. It is a question at present whether this species be really the Ceylon species of Kelaart; but it is certain that I afterwards met with the same species on two occasions upon the shores of Labuan, separated from the first locality by the whole extent of the China Sea, or about 20° of latitude. A very minute species, of a scarlet colour, measuring only one-eighth of an inch in length, I found also in Makung Harbour; but its minuteness did not prevent me from meeting with it again afterwards upon the coast of China, about 150 miles further north.

In Formosa, Kelung Harbour (on the north-east side) was the only place I was able to examine; and here the result of numerous searches among the sandstone and coral rocks was but three (new) species—one a small blue *Doris*, but the other two of greater interest. Both of them were remarkably beau-

tiful species; but one of them possesses especial interest as probably representing a new genus of swimming Nudibranchs, its natation being performed by a vertical or up-and-down motion, and not, like that of *Bornella*, by a lateral, vermicular movement. I met with neither of these species, nor the next to be mentioned, on any other occasion.

When dredging about 170 miles to the north-east of Formosa, in 60 fathoms water, amidst a mass of delicate branching corals &c., I obtained a glorious new species of *Chromodoris*, translucent, of a rich amethystine tint, with yellow tentacles and branchiæ. And I may be permitted to mention that at the same time and place I obtained large specimens of *Orbitolites* and a *Cycloclypeus*, only inferior in size to those dredged by Sir E. Belcher on the coast of Borneo, my specimen being one inch and three-quarters in diameter.

On a small island in Haitan Straits, on the coast of China, I met with five species. One of these I have already alluded to as having also occurred in the Pescadores. Of the remaining four, found upon a promising stony beach at spring tide, one was a large velvety-brown *Doridopsis*, the second a small *Euplocamus*, or, perhaps, *Plocamophorus*, and the other two were richly coloured species of *Chromodoris*. Of these, one, studded with round crimson tubercles upon a cream-coloured ground edged with chrome, I afterwards found to be not uncommon at Labuan, not only on the shores of Labuan itself, but also on two small islands adjacent—another instance of rather more than twenty degrees of separation, nearly the whole of the China Sea being between the two localities.

On a submerged coral-reef, nearly in the centre of the China Sea, I found two species: one was probably a new species of *Chromodoris*, and the other a variety of the *Doris exanthemata* of Kelaart, described by him in the 'Annals' for 1859, among the Ceylon Nudibranchs. The specimen I obtained upon this reef was small, about 3 inches long, and by no means an ugly object; but upon a small coral-island on the west coast of Borneo, 7½ degrees south of the reef, I again met with this species—this time, however, much larger specimens, nearly 7 inches long and 4½ wide, which were truly wretched-looking objects for Nudibranchs, and much more like the "loathsome diseased mass" described by Kelaart.

When I was at Labuan, on showing some of my drawings of the above Nudibranchs to a gentleman who had indulged in shell-collecting on the reefs, I was assured that many beautiful species of the family were to be found there; and I therefore was greatly in hopes of adding largely to my collection at this place. The first species which occurred to me was,

singularly enough, the *Chromodoris* which I had already found at the Pescadores; the next I recognized as an old acquaintance of Haitan Straits, and I began to think there was nothing new—in Labuan at least; but I ultimately discovered a new species of *Doris*, beautifully marked with longitudinal lines alternately nearly black and white, the tentacles and branchiæ being also mottled to match this colouring, the whole mantle and foot having a border of orange. This species was at that season of the year (August) pretty common; and I found it at Labuan, and also on both the small adjacent islands before mentioned.

The gentleman who had described to me the appearance of certain species which he averred having seen in his shell-collecting rambles, kindly accompanied me to the spot; and we both searched in every direction, but without success, and I was obliged to leave them to my successors to discover and bring to light. Probably it was not the right season. Upon one of the small islands I met with a large mottled-grey and tuberculated Dorid, 4 inches long, with capacious tentacles and expansive gill-tufts (not unlike *Doris tuberculata*), which exhibited a singular habit. Several specimens which I took home for examination, after a short time performed a spontaneous amputation of the mantle close round the body, as cleanly as if done with a pair of scissors, after which they soon decayed. At first I was inclined to attribute this circumstance to a large *Pyrula*, which was in the same vessel; but having removed the other specimens into a separate vessel of clean water until I should have time to attend to them, I found the next day that they also had amputated their mantles. It appeared indeed to be a suicidal act, produced probably by the fouling of the water, and analogous perhaps to the breaking-up of *Comatulæ* and the self-evisceration of *Holothuriæ*.

At Singapore I found a variety of *Doridopsis rubra*, a fine rose-coloured species which occurs among the Ceylon Nudibranchs of Kelaart, and also among the Madras Nudibranchs described by Messrs. Alder and Hancock, and is perhaps synonymous with a Cuvierian species, *Doris solea*. It is not a little curious and interesting to find such small and delicate animals existing in places separated by so many hundreds (and, in some instances, thousands) of miles of trackless ocean; and there seems scarcely any limit to the geographical range of these creatures, which evidently require abundant food, whose locomotive powers are very limited, and whose soft bodies are ill calculated to resist much rough treatment by the waves. Probably their dispersion has mainly been effected by their multitudinous ova; and yet in many cases their

ribands of spawn are fixed to stones and rocks, and comparatively rarely to substances which could be easily transported by the waters. Although indeed we may be acquainted with or may easily imagine numerous methods of dispersal and distribution, there must evidently be many others we do not dream of, which are nevertheless common and effective.

I need hardly add that I have careful drawings, as well as specimens, of all the above-mentioned species of Nudibranchiata, which I hope to be able to publish at some future day. They have already (the drawings at least) had the advantage of being inspected by Mr. A. Hancock, who has kindly given me some valuable hints concerning them.

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XV.—*Remarks on the Names applied to the British* Hemiptera Heteroptera. By Francis P. Pascoe, F.L.S. &c.

Messrs. Douglas and Scott having kindly undertaken to prepare for the Entomological Society a list of British Hemiptera, I should like to make a few observations on the names adopted by them, or rather on the principles which led to their adoption, in their well-known work*. In no other order of Insects is there so great a discrepancy in the nomenclature—Fieber, Flor†, Dallas, Bärensprung, Dohrn, and others agreeing only to differ. It will therefore be useful, I think, to examine the causes which, to a certain extent, have led to this result. The study of the Hemiptera is limited at present to comparatively few entomologists; and until "unnecessary genera" shall have been ignored by common consent, no uniformity can be hoped for. Putting this cause aside as one that will gradually disappear, there remain two faulty principles at work, and, singularly enough, among hemipterologists only, viz.:—(1) the application of the generic names of the older authors to obscure, sometimes extra-European species, instead of to the larger number of better-known species which those authors must have had most prominently before them, thus rendering the use of new names necessary; and (2) giving new names to such genera as were formed by the union of two or more genera of a preceding writer.

As an example of the first of these principles, we will take the old name of *Cimex*, under which Linnæus was content to

* The British Hemiptera, vol. i.: Hemiptera-Heteroptera. 1865 (Ray Society).

† I have not quoted this author because he uses a trinomial nomenclature which is rather difficult to explain.